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AMENDMENTS TO THE CLAIMS

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11. (New) A method of using of an ionic liquid as heat transfer medium for the indirect introduction or removal of heat into or from a reactor.
12. (New) A method of using as claimed in claim 11, wherein the ionic liquid has a melting point below 150°C.
13. (New) A method of using as claimed in claim 11, wherein the ionic liquid used as heat transfer medium has an operating temperature in the range from +60°C to 360°C.
14. (New) A method of using as claimed in claim 11, wherein the reactor is a shell-and-tube reactor.
15. (New) A method of using as claimed in claim 11, wherein the reactor is equipped with heat-exchange plates through which the ionic liquid flows as heat transfer medium.
16. (New) A method of using as claimed in claim 11, wherein the ionic liquid contains a sulfate, phosphate, borate or silicate anion.
17. (New) A method of using as claimed in claim 16, wherein the ionic liquid contains a monovalent metal cation and a further cation.
18. (New) A method of using as claimed in claim 11, wherein the ionic liquid contains an imidazolium cation, pyridinium cation or phosphonium cation.
19. (New) A method of using as claimed in claim 11 for removing the heat of reaction of an exothermic reaction.
20. (New) A method of using as claimed in claim 11, wherein the ionic liquid replaces a high-temperature salt melt, a heat transfer oil, monochlorobenzene or a heat transfer medium used for evaporative cooling or for the condensation of vapor.
21. (New) A method of using as claimed in claim 12, wherein the ionic liquid has a melting point below 80°C.

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22. (New) A method of using as claimed in claim 21, wherein the ionic liquid has a melting point below 25°C.
23. (New) A method of using as claimed in claim 13, wherein the ionic liquid has an operating temperature range from 260 to 360°C.
24. (New) A method of using as claimed in claim 17, wherein the monovalent metal cation is an alkali metal cation and the further cation is an imidazolium cation.
25. (New) A method of using as claimed in claim 19, wherein the exothermic reaction is a partial oxidation or the preparation of chlorine by oxidation of hydrogen chloride.
26. (New) A method of using as claimed in claim 25, wherein the partial oxidation is the preparation of acrolein, acrylic acid, phthalic anhydride or maleic anhydride.